



Amended Figure 1 (sheet 1 of 1)

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SEQ ID NO:39 1 M G E Y L A E P R G F V C G V E P L 18
SEQ ID NO:38 1 TTCCCTAAATGGGAGAATACCTCGCTGAACCCCGCGGGTTTGTGTGTGGGGTTGAGCCTC 60

19 C S Y E Q Y F G P G T R L T V L E D L R 38
61 TGTGCTCCTATGAACAGTACTTCGGTCCCGGCACCAGGCTCACGGTTTTAGAGGATCTGA 120

39 N V T P P K V S L F E P S K A E I A N K 58
121 GAAATGTGACTCCACCCAAGGTCTCCTTGTGTTGAGCCATCAAAAGCAGAGATTGCAAACA 180

59 Q K A T L V C L A R G F F P D H V E L S 78
181 AACAAAAGGCTACCCTCGTGTGCTTGCCAGGGGCTTCTTCCCTGACCACGTGGAGCTGA 240

79 W W V N G K E V H S G V S T D P Q A Y K 98
241 GCTGGTGGGTGAATGGCAAGGAGGTCCACAGTGGGGTCAGCACGGACCCTCAGGCCTACA 300

99 E S N Y S Y C L S S R L R V S A T F W H 118
301 AGGAGAGCAATTATAGCTACTGCTGAGCAGCCGCTGAGGGTCTCTGCTACCTTCTGGC 360

119 N P R N H F R C Q V Q F H G L S E E D K 138
361 ACAATCCTCGAAACCACTTCGCTGCCAAGTGCAGTTCATGGGCTTTCAGAGGAGGACA 420

139 W P E G S P K P V T Q N I S A E A W G R 158
421 AGTGGCCAGAGGGCTCACCCAAACCTGTCACACAGAACATCAGTGCAGAGGCCTGGGGCC 480

159 A D C G I T S A S Y H Q G V L S A T I L 178
481 GAGCAGACTGTGGAATCACTTCAGCATCCTATCATCAGGGGGTTCTGTCTGCAACCATCC 540

179 Y E I L L G K A T L Y A V L V S G L V L 198
541 TCTATGAGATCCTACTGGGGAAGGCCACCCTATATGCTGTGCTGGTCAGTGGCCTGGTGC 600

199 M A M V K K K N S * 208
601 TGATGGCCATGGTCAAGAAAAAATTCCTGAGACAACTTTTATGCATCCTGAGCCGTT 660

661 CTTACCCCTGGCCATAGATTTTCTGACCTTCTCTAATTCTGTTCTTAAGAACTTGTC 720

721 TCTTCTTCTCCATGGATATCCATCCTTCTGTTGACACCTTGACTCTGAAA 773

Amended Figure 4 (sheet 1 of 4)

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Sequences of intronic J β sequences containing Met:

(Met: bold; J β exon: italics)

J β 2.1 KGSREVEPPFSPYHVNHQQSIRTCMGNYELIKKH Stop V E
K Stop T L C G K E V T S P F S L E A T W T P T G S L Q I S N S L C Q T L S E
Stop M D I R S Q A K S G I S S S I Stop D R P H A R S R L P Y Q F W R Stop M
E N V S N P G S C I E E G E E R G R I L G S P F L L C N Y A E *Q F F G P G T*
R L T V L (SEQ ID NO:40)

J β 2.6 E L L G N C S G E F W G F W R L Y P E F P S R A L E R E A E Stop Q G D F P
Stop *M* G E Y L A E P R G F V C G V E P L C S Y E *Q Y F G P G T R L T V L*....(SEQ ID
NO:41)

Sequences of intronic J α sequences containing Met:

J α TA31 V S K K K K K K S V T I L Stop N S E P A E G A I N S S L L G S L D P
G Stop N V L E H C T G L L P S P K D D P Stop C Q D R S S F L W G G G Q W I F A V I
V F C L A H S P R L W Stop P E T S P Q S T T Q E Q R V K G Stop L N
Stop G E R D I G H V R T R R N F T Q K K N C H L G R C Stop S V S M A E V T
P P P C P R L V S Q L R H G H Stop Q K G G F L S S L K T N L A E S H L P S S
P N E P V V S V D A L G S V R R V F A V A E G S R L T R R A R W G R T Y R G
W T E A S P C L H S S C A A Stop S S C G F Stop T G G R G G W G R G A I P K
A V A C F G I C S G L L C L P P W E R T H L A S R R L D V A G Q E D T G V G
G N S F R G E G E R G G R T V V E G V T G G S M S R M Stop S E Stop V K F K
K L E I K N K K Q G R G L Q K V Y R A G T V D F V M A W H T V A N Y G N E K
I T F G A G T K L T I K P.... (SEQ ID NO:42)

J α TA46 Stop V F L P G R W E P K Stop E V D R D I S N P P C K P L V Stop L P T
V D T V Stop T I Stop R T L S H I D E G S D V V H T Stop E D S R D L S L V T V S D C
M P I V V H S R V Q Q T K D R D I K I R W T L S Stop P H L C N Q M I F T G S L A N
G C V A Stop S L T I S P L L S P W L S F G S L S L T Stop N L K Stop
S I Y Stop I I R F L G C I T H K K M T S R H I N I N P E E R G Q R A L S Q T
C S E L N L T T P C F N Q L A S A Y D Q L R Q R A T D R K W S S R H H L T R
A L Stop P H Q R Stop Y F R V Q E S F P Q A G W L E R G H G S A L R Q A M E
A G W E V Q H W V S D M E C L T V V T G S G G K L T L G A G T R L Q V N L...
(SEQ ID NO:43)

Amended Figure 4 (cont.) (sheet 2 of 4)

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JaNew05 Stop V K D Stop G Y P K T K Stop V C G F A V L C S F G G C M S L P P R
S L C I T L M G L C Stop L M K S G H S K D L D E E V I I T A F F H Y Stop L R I Stop
R S A Stop R Stop F I N V R L M F V L R Stop Y Stop K P N N S K I R L S
S V T Stop T H I H T H S H T H I L T H W H N H T H T H T L S Q S H T H T H S
H T S T I T H T L T Q P H T H S L S L S L S L S L S L S L S L S L P R Q
C N C I W F P S R N G C C V C L T Stop D M Q S Y Q L V S W L G F C Y C Stop
F S V K T L P V K E A W C Y Q P Stop S C H Y S N H I Y T Stop P F Y Y F I S
L K L A Q L I R I Q C W G N K T S G F Stop S S S E Stop L H S Q L L V L R G
C S K P S Q T L G T K A A R R K A S T R G E D D V A F L G L P L G P S C L L
V I V R P Q M T V N S **G G S N A K L T F G K G T K L S V K S.... (SEQ ID NO:44)**

JaS58 W V Stop R F H V T A V A L C S F Stop T S L L H L F Stop L E T L G F R
L S F L F K K Q S L Stop S K Stop Q D L L C L L S F H I V T K A G R I C S K L G L R L
L A K V E W M Stop V Stop L V Y R K E R F V L L F F Stop P Stop Stop Y S
K V K A T T V A S K V L Q A W S V L Q G E T W G N W L T F H G K T G M L F V
V G L L L L L S S L S L S L K E T Stop Y N T F Stop L S G F E Stop L G I Q
M C I T C S W Q G S R A V V L N L P N V V A P S P P K T I K L F C C Y F I A
V T L L L L Stop I G M Stop I S Y M Q L I Stop Y A T P V K G S L N P Q R R S
A L Q D E S R C C R G R W S T V S N V R G A I E L G R N T M P T F E E K K N
S S L G L E Q D Stop P L F L V S P L P L E K K P F I C N G L S R L M S F
Stop M R F H V L T Stop Stop D S L G R R S L L P L Q V Stop Stop V F Stop D
Stop V G N V N C T A K I R R A G I N S Q P L L M L S L Stop N R N Q I R M L
S S V C V H T P P R A S Stop F D Stop C Q Stop L I Q I F R H L S E Q T S L G
S L C L N Stop L S R Y L H N C Q I C F T L C C I D S A Stop Stop K Q M R L C
F P R S F S P R R S S L P P S K Stop H L F T Q R E D V Q R V T Stop L I A A
A S L H L Y D S L P W K R L K H F I R L I S Stop T D Stop Q P N Stop E E R N
R F Stop A S F L W L Q F Q A T H L E H L V R H L R N T G A R R E V V S L C G
L V F L S C T E N F T Q E E S K Stop V E N Stop Q P G I H M Y T K Q S Stop
A S A L S G S T V W F P H S P T P A P F I S N T Y I I L F S F S F E F L S A
M P S H N P S T Y H C L S N P R M D G S G T G R V L F S G P S A E P L K K C
R L Y P S S Stop V A T R R L G R G Q D E E K P Q E S G T A S L W Stop Y I R
L N L L S G L K C F S F H L E P M C G S E E V F V V E S A T **V A D R L C K C**
A D I W I W H K S H S M S T.... (SEQ ID NO:45)

JaNew06 K C V F S C S L G L E Q Y C S L H P Q I F S R R I Q C L A L Q T L P V
Stop P L K G S Y S F F Stop K Stop H R R I P F N V A N C G G D Stop T A Q G P N L C S
S L L Stop G Q L C L L S H R Stop T S E S G G L F P S L A F P V D E V V L
S T N F I V K D T H D R Q L L P Y F S L N K F F L C Stop Stop L Stop Q H I S
A N E F L V I Q I N S S V T Stop T V A S Y P I I Q N S L T H H S A A A H C A
S S N P D L H A S S N K A K R M A C Y Q M Y F T G R K V D E P S E L G S G L
E L S Y F H T G G S S Q A V G L F I E N M I S T S H G H F Q E M Q F S I W S
F T V L Q I S A P G S H L V P E T E R A E G P G V F V E H D I T **V S S N T N**
K V V F G T G T R L Q V L P.... (SEQ ID NO:46)

Amended Figure 4 (cont.) (sheet 3 of 4)

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JaNew08 Stop V M F H F L M F Stop N S L P L S Stop R C S E C R V G K L H M L G
H G G Q H S C T G Y S T A Q P D T T S P T T G E T A P T L P P D T K I F L I V Y L I
Stop R A K G K I K K L C P E S I L K S P R P S P P Y P H Stop S P A D C K
F N V I F G S Y Stop K Stop Stop G F L C L M T P T V S L P S F I K G L L F C
V W P L L A S W F C P H A P L C L F Q G W A G D N S F K S H F D V T D N R D
K V L A K C N T A H G V F S R H T T S Q L F S S V Q K H G H S Y L M S A I Y
S D T A K C S F K A G T R D F L W D L F L R L T M G W A F S G S S E M P S W
I P A L P M E I L W S G Stop T A K P D M F L L Y R L L Q G L E I R T L R E N
K S F G Stop M G R L L D G S I R K R N D Stop Q E E R P K K N T G Q A L G W
G G V G M S R K M V T V G I Q E A G S L S Stop E G K Q G F L Stop L K V P S
Q L S N L N Q Q G H L P F P S D F P V H V G M P L P P T M V C Stop E V G R G
I D Q E Y V Stop H S Stop G P L F K H E T P E S V R G A K S L G P R R E M Q
Q S N S S Q Q V W R S T E Q D P V L A L C L T P L A S P D H T A H P S S F S
Stop P Q E S K V L D R E P E I P Stop P G Q V Q K G W S G A Q G W F L K T L
W I S I Stop F L I Y N K F Stop L S Stop V I R K M F L L Stop T I P V K G K
D N I Y R G P L L R C Q F P P W A S M W W G L I L S A S V K F L Q R K E I L
CLPGTGSNRLTFGKGTKFSLIP... (SEQ ID NO:47)

[illegible]

Amended Figure 4 (cont.) (sheet 4 of 4)

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JaDK1 Stop VCLFLWIPNLIHC Stop DKCKLFRHVSGVSTVPIH
PDITGSKVP SHAFVLTRKTGSSLYCWQAQ Stop GSRLEDASD
AQQPAWDCPGRESCSEMPSSLPLGIIL Stop LSSPT Stop
ARPCLSVAYSIPASHTCGCANILIEASGRS Stop GSSMLL
F Stop GKASH Stop Stop SKAG Stop LDSPPPKSLHIPGSGLQV
QTTMLVFV Stop VLDMEPGCACLQGKHFIG Stop AISLAHL
PVSIF Stop ERISW Stop YSHLVHRQKDDVDVPRWHTVIW
SQALIFPPSIFRCLSVKVISSSMSPGGRLACCPSSAVA
WMASSCYPT Stop L Stop CIPIIHLTLYVYLLFPYS Stop MYC
HATVMLFIVSSVSSVVPIS Stop TKIQRPNCLPCLKIIVLE
KKLEFCCCLYRH Stop ELRSLAVARTGYDFCSV Stop LHTP
Stop V Stop MREPVKNLQGLVSL **CLPGRQSSDIWNRNHGIS**
QP..... (SEQ ID NO:49)

JaTA39 Stop VPDSW Stop L Stop RPPLSHSLYHTDDHMPYHSSKV
ELGFNEERN Stop MLLVVAVLHPMSHSMFIITLITSSDKRKFTTR
RTVTIC Stop TLVKMKVSTGAGAYCNSGYQKDQALARKKLNK
Stop Stop VDLVKLLQIFFKNQYVSELTGEYSAAILSGFSYSYGTT
VVEPCKRGFHLNSMLSLSYSSNQKGGIPSR
TPKREES Stop MLITSIS Stop DHSRLSIFVRQHGTIYNVF
IWGTRHH Stop RDA Stop Stop GC Stop DPLNLPQYL Stop GTVVK
ELMVHADKHIPCMGKLSK Stop GCRTGCEQDRSCRNPRNN
SSRRADPEERA AQLKHIQVP Stop ICFDSCTGPALSVKRK
CLIIHLHKLI Stop G Stop VNVCKNILQILKCYPHIKYGSIK
QQKILKLGQS Stop TLLR Stop RDGVCSCGSVATGTG Stop KH
PLSLMEVYELRVTLMETGRERSHFVKTSLT **VQILGLTR**
GLELGQNSKSFQ..... (SEQ ID NO:50)

Amended Figure 11 (sheet 1 of 1)

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Intron 5' to J β 2.3	J β 2.3	C β 2
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Intron 5' to J β 2.3

1 atgggggtctcagcgggtgggaaggacccgagctgagctctgggacagcagagcggggcagca 60
 1 **H G L S A F G R T R A E S G T A E R A A** 20

J β 2.3

61 ccggtttttgtcctgggcctccaggtgtgagcacagatacgcagtattttggcccaggc 120
 21 **P F F F L G L Q A F S T D T Q Y F G P G** 40

C β 2

121 acccggctgacagtgtcgcaggacctgaaaaacgtgttcccacccgaggtogctgtgttt 180
 41 **T R L T V L E D L K N V F P P E V A V F** 60

181 gagccatcagaagcagagatctccacaccccaaaaggccacactggtgtgcctggccaca 240
 61 **E P S E A E I S H T Q K A T L V C L A T** 80

241 ggcttctaccccgaccacgtggagctgagctggtgggtgaatgggaaggaggtgcacagt 300
 81 **G F Y P D H V E L S W W V N G K E V H S** 100

301 ggggtcagcacagacccgcagccctcaaggagcagcccgccctcaatgactccagatac 360
 101 **G V S T D P Q P L K E Q P A L N D S R Y** 120

361 tgcctgagcagccgcctgagggctctcgccaccttctggcagaacccccgcaaccacttc 420
 121 **C L S S R L R V S A T F W Q N P R N H F** 140

421 cgtgtcaagtccagttctacgggtctcggagaatgacgagtggacccaggatagggcc 480
 141 **R C Q V Q F Y G L S E N D E W T Q D R A** 160

481 aaaccggtcaccagatcgtcagcgcgcaggcctggggtagagcagactgtggcttcacc 540
 161 **K P V T Q I V S A E A W G R A D C G F T** 180

541 tccgagttaccagcaaggggtcctgtctgccaccatcctctatgagatcttgctaggg 600
 181 **S E S Y Q Q G V L S A T I L Y E I L L G** 200

601 aaggccaccttgatgacgtgtgtcagtgccctcgtgctgatggccatggtcaagaga 660
 201 **K A T L Y A V L V S A L V L M A M V K R** 220

661 aaggattccagaggctag 678 SEQ ID NO:67
 221 **K D S R G *** 225 SEQ ID NO:51